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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,535	04/22/2004	Larry J. Verbowski	71,022-002	7312

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EXAMINER	
MCCREARY, LEONARD	
ART UNIT	**PAPER NUMBER**
3616	

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/829,535	VERBOWSKI, LARRY J.	
	Examiner	Art Unit	
	Leonard J. McCreary, Jr.	3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,16,18-28 and 31-35* is/are rejected.

7)☒ Claim(s) *13-15,17,29 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/30/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 18-19 stand rejected under 35 U.S.C. 102(b) as being anticipated by US 4,635,958 to Yonemoto. Yonemoto discloses a torsion bar suspension for an automobile comprising the following:

a. A suspension assembly in an automobile vehicle comprising: a support frame 450; a control arm 500 movable relative to said support frame; a torsion bar 300 connected to said control arm for resisting movement of said control arm relative to said support frame; an adjustment lever 100 connected to said torsion bar for placing said torsion bar in torsion; a torsion bar connection 320 between said adjustment lever and said torsion bar for connecting said adjustment lever to said torsion bar at a plurality of primary drive positions 325 at first angular increments relative to one another; and an indexing system 600 for positioning said adjustment lever at a plurality of intermediate drive positions at second angular increments (claim 1.)

b. An adjusting mechanism 610 for pivoting said adjustment lever to increase the amount of torsion in said torsion bar (claim 18.)

c. An adjustment lever 100 for applying torsion to a torsion bar 300 for resisting movement of a control arm 500 relative to a support frame 450 in a vehicle; said adjustment lever comprising: a torsion bar connection 320 for connecting said adjustment lever to the torsion bar at a plurality of primary drive positions 325 at first angular increments relative to one another; and an indexing system 600 for positioning said adjustment lever at a plurality of intermediate drive positions at second angular increments (claim 19.)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-12, 16, 20-28, and 31-35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,635,958 to Yonemoto to US 4,243,247 to Kataoka. The disclosure of Yonemoto is discussed above. Yonemoto does not teach an independent hub. Kataoka discloses a suspension height-adjusting mechanism in a torsion-bar suspension system and teaches the following:

d. Said indexing system includes a hub 64 independent of a frame bracket and including said torsion bar connection to said torsion bar at said first angular increments (claims 2, 20.)

e. Said indexing system includes a hub connection between said hub 64 and a frame bracket 60 to position said hub angularly relative to said frame bracket at said second angular increments (claims 3, 21.)

f. Said one of first angular increments defines a primary radial and offset from said primary radial by an offset angle (claim 4.)

g. Said hub connection includes a pocket 54 in said frame bracket receiving said hub with said hub being removable from said pocket to be inverted 180 degrees about said secondary radial and reinserted into said pocket to position said primary radial relative to said secondary radial whereby said angular position of said adjustment lever may be adjusted by multiples of said offset angle (claims 5, 23.)

h. Said torsion bar connection includes a hexagonal head on said torsion bar and a hexagonal socket in said hub to receive said hexagonal head of said torsion bar whereby said first angular increments are equal (Fig. 7) (claims 6, 24, 32.)

i. Said indexing system includes at least one tooth extending radially from said hub and a tooth cavity in said frame bracket for receiving said at least one tooth (Fig. 9) (claims 10, 28, 33.)

j. Said at least one tooth of said hub presents a generally rectangular configuration (Fig. 9) (claim 11.)

k. Said plurality of said teeth and said plurality of said tooth cavities are disposed on different radials than said first angular increments between said hub and said torsion bar (Fig. 9) (claim 12.)

l. At least one tooth cavity presents a generally triangular configuration having two sides and a rounded bottom interconnecting said two sides (Fig. 6) (claim 16.)

m. Said one of first angular increments defines a primary radial and one of said second angular increments defines a secondary radial, said primary and secondary radials being offset from one another by an offset angle (Fig. 9) (claim 22.)

n. A frame bracket 60 for applying torsion to a torsion bar 62 for resisting movement of a control arm 40 relative to a support frame in a vehicle or similar environment, and comprising: a hub 64 having a torsion bar connection for connection to a torsion bar at a plurality of primary drive positions at first angular increments relative to one another; and a hub connection between said hub and said frame bracket to position said hub angularly relative to said frame bracket and for allowing said hub to be removed and inverted 180 degrees and reconnected to said frame bracket (claim 31.)

o. A suspension assembly in an automobile vehicle comprising: a support frame; a control arm 40 movable relative to said support frame; a torsion bar 62 connected to said control arm for resisting movement of said control arm relative to said support frame; a frame bracket for placing said torsion bar in torsion and

a hexagonal pocket (Fig. 7); a hub 64 having a hexagonal periphery and disposed in said pocket, for connecting said frame bracket to said torsion bar at a plurality of primary drive positions at first angular increments relative to one another wherein said one of first angular increments defines a primary radial and including a secondary radial, said primary and secondary radials being offset from one another by an offset angle; an indexing system for positioning said adjustment lever at a plurality of intermediate drive positions at second angular increments; a hub being independent of said frame bracket and including said torsion bar connection to said torsion bar at said first angular increments, wherein said hub presenting a hub connection defined between said hub and said frame bracket to position said hub angularly relative to said frame bracket at said second angular increments with said hub connection including a pocket 54 in said frame bracket for receiving said hub with said hub being removable from said pocket being inverted 180 degrees about said secondary radial and reinserted into said pocket to position said primary radial on the opposite angular side of said secondary radial whereby said angular position of said frame bracket may be adjusted by multiples of said offset angle; at least one tooth extending radially from said hub with said at least one tooth having a configuration complementary to said at least one tooth cavity defined in said frame bracket (claim 35.)

5. Re claims 2-12, 16, 20-28, and 31-35, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the torsion bar suspension

having an adjustment lever of Yonemoto to include an independent hub as taught by Kataoka so as to provide the torsion bar with an axial degree of freedom while rotationally constraining the torsion bar to rotate with the control arm (col 1, lin 65 – col 2, lin 3.)

6. Re claims 7-9, 25-27, and 34, Kataoka discloses the claimed inventions except neither first and second angular increments nor the number of teeth and teeth cavities are specified. It would have been an obvious matter of design choice to select appropriate first and second angular increments and a number of teeth and teeth cavities so as tailor torsion spring adjustability to specific vehicle models and operating conditions, and since applicant has not disclosed that specific angular increments or number of teeth solve any stated problem or is for any particular purpose and it appears that the invention would perform equally as well with other incremental combinations and numbers of teeth.

7. Re claims 3-4, 12, 21-22, 31, and 35, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the torsion bar suspension having offset angular increments of Yonemoto to include offset angular increments as taught by Kataoka so as to provide an additional adjustment option and so as to offer finer adjustment capabilities (col 5, lin 12-24.)

8. Re claim 35, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the torsion bar suspension having a torsion adjustment mechanism of Yonemoto to include the hub assembly as taught by Kataoka so as to

allow axial movement of the torsion bar while resisting rotation (col 1, lin 65 – col 2, lin 3.)

Allowable Subject Matter

9. Claims 13-15, 17, and 29-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. McCreary, Jr. whose telephone number is 571-272-8766. The examiner can normally be reached on 0700-1700 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leonard J. McCreary, Jr.
Examiner
Art Unit 3616

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8/21/06
PAUL N. DICKSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600